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ABSTRACT

High Schools That Work (HSTW) sites have used a variety of specific approaches to implement a challenging curriculum, provide a systematic program of sustained guidance, and enable academic and career and technical education (CTE) teachers to work together in planning and delivering integrated instruction. The HSTW-recommended curriculum calls for a challenging program of study with these two components: upgraded academic core of courses and CTE major. Different HSTW sites have used different approaches to do away with general-track academic courses and expose all students to a curriculum that provides the challenging academic content traditionally taught only in college-prep courses. A frequently used approach to providing the planned, coherent sequences of CTE courses that students need for a CTE major is tech prep. The importance of sustained, systematic guidance is exemplified in one part of Kentucky's high school restructuring, a new graduation requirement the Individual Graduation Plan. Other sites offer important practices such as a guidance and advisement system; parent involvement; Career Action Plan requirement; and a mandatory semester course on career, academic, and personal strategies. Ways that academic and CTE teachers have worked together are: planning for school change, and participating in staff development; academic and CTE teachers working together to plan and deliver integrated academic and CTE instruction; and block scheduling. (Contains 13 references.) (YLB)

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PRACTICE APPLICATION BRIEF NO. 19

High Schools That Work: Best Practices for CTE

by Michael E. Wonacott
2002

High Schools That Work (HSTW), a school improvement initiative of the Southern Regional Education Board (SREB), has documented achievement gains by career and technical education (CTE) students at participating sites (Bottoms and Presson 2000). At HSTW sites participating in 1996 and 1998 assessments (Frome 2001), CTE students showed math and science achievement equal to the national average of all high school students—and exceeded the national average of CTE students in math, science, and reading.

One part of the HSTW framework is a set of 10 Key Practices that each participating site implements by developing and carrying out a customized action plan for school improvement (SREB 1999). Kaufman et al. (2000) used existing HSTW data to analyze the impact of 6 clusters representing HSTW's 10 Key Practices. They concluded that achievement gains in science, reading, and math were correlated with the proportion of students meeting HSTW curriculum standards and with the amount of time students spent talking to their guidance counselors and teachers about their school program. They also concluded that the proportion of students perceiving their academic and CTE teachers working together to improve students' math, reading, and writing skills was correlated with achievement gains in those three areas. This Brief provides practical examples of approaches HSTW sites have used to move toward HSTW curriculum standards, provide students with guidance, and allow academic and CTE teachers to work together.

HSTW Curriculum Standards

The curriculum recommended by HSTW (Bottoms and Presson 2000) calls for a challenging program of study with two components. First, an upgraded academic core of courses provides content and achievement standards comparable to college-prep or honors courses: four credits in English; three credits in math (two comparable to Algebra I, Geometry, or Algebra II); and three credits in science (two comparable to biology, chemistry, physics, or applied physics). The second HSTW curriculum component, a CTE major, includes four credits in a planned, coherent sequence of CTE courses supplemented by two related credits, including computer literacy skills.

Different HSTW sites have used different approaches to do away with general-track academic courses and expose all students to a curriculum that provides the challenging academic content traditionally taught only in college-prep courses (Baldwin 1998; Miller 1997). In York County, Virginia, applied "academic tech" courses provide CTE students with college-prep material. The Randolph County, West Virginia, school district used applied curriculum materials to raise the reading bar in all English classes. North Laurel High School, Kentucky, on the other hand, required all students to take courses that had previously been college-prep courses and to complete either an academic or CTE major (Miller 1997). Holcomb High School, Kansas, combined both approaches by requiring every student to complete a core, college-prep-level curriculum while making alternative applied courses—also at college-prep level—available for some classes and encouraging students to complete a career major.

A frequently used approach to providing the planned, coherent sequences of CTE courses that students need for a CTE major is tech prep, often with associated career clusters or career academies. For example, four school districts in Florida's Quad County Tech Prep Consortium organized CTE courses into programs in four career clusters (business technology, agribusiness, industrial technology, and allied health) (Winterburn 1995). Quad County students started tech prep in the ninth grade to ensure appropriate preparation for college. Articulation agreements with the participating community college allowed high schools to certify students' competencies in CTE courses identified as duplicating college course offerings; students could earn 3-12 college credits, to be noted on their transcripts when they completed 15 hours of an associate of science degree program. One participating high school established an Academy of Agritechnology to provide both an organized CTE program and fully integrated instruction. Additional support for the planned, coherent sequence of tech-prep courses in Quad County and other consortia came from the state; Florida offered a $2,000 Gold Seal Scholarship—renewable for 4 years—to CTE program completers with a grade point average of 3.5 in their CTE components and 3.0 overall.

Similarly, Swansea High School, South Carolina, required all incoming ninth graders to choose either a tech-prep or a college-prep program in one of four career clusters: business and information, engineering industry, arts and humanities, or health and human services (Lozada 1996). Four tech-prep concentrations (building construction technology, computer-aided drafting, health occupations, and automotive) provided additional focus for CTE courses. Most students took both tech-prep and college-prep classes. For instance, a tech-prep student in the engineering industry cluster could combine a concentration in automotive technology with applied academic classes like workplace communication; or a college-prep student in the health and human services cluster with a long-term goal of medical school could combine college-prep English with courses from the health occupations concentration.

Guidance

One part of high school restructuring in Kentucky has been a new graduation requirement, the Individual Graduation Plan (IGP), based on the state's experience with HSTW, tech prep, and school-to-work (Logan 1996; Moore 2000; SREB 2000). Before entering high school, each student must develop an IGP, with the guidance of parents and educators, for a high school program of study including specific academic courses and projected school-sponsored or -approved activities to enable the student to complete high school and prepare for college (both 2- and 4-year), work (including working at home), and military or community service. The student, parent or guardian, and designated school official are required to review the IGP annually and make appropriate changes as the student's interests and goals change. Personnel from all 27 developmental sites in a 2-year pilot test strongly endorsed the IGP, reported that it complemented and helped coordinate ongoing programs and reform initiatives like school to work and HSTW, and recommended that it be required for all students. However, 24 of 27 sites also reported that counselors had great difficulty accommodating the additional workload; their solution was to set up an advisor/advisee program to involve teachers in IGP activities and ensure that each student had an advising relationship of warmth, concern, and understanding with at least one adult in the school.

The importance of sustained, systematic guidance is echoed by other HSTW sites (Bottoms and Presson 2000; Lozada 1996; SREB 1995). Loganville High School, Georgia, established a guidance and advisement system in which teacher advisors, trained to mentor students throughout high school, met regularly with students and their parents. Swansea High School began involving parents by holding group meetings for parents of eighth graders to orient them to the school's 5-year guidance plan, including a first year of postsecondary education; school staff quickly discovered how important it was to educate parents tactfully about options after high school, includ

ing postsecondary education. The Career Action Plan program at Springdale High School, Arkansas, involved not only annual conferences with students and parents but also monthly group meetings with students, development of individual career portfolios and career plans, and career assessment in grades 8 and 10. Woodville High School, Texas, developed a mandatory semester course on career, academic, and personal strategies to begin the guidance process for ninth graders. The guidance system at Walhalla High School, South Carolina, included computerized self-assessment and planning modules in addition to face-to-face meetings between students, parents, teachers, and counselors.

Teachers Working Together

Planning for school change and participating in staff development are two specific ways that academic and CTE teachers have worked together with results visible to students (SREB 1996). At Fort Mill High School, South Carolina, teachers and administrators jointly established an array of committees to direct school change. When teachers requested training in applied communications, the staff development committee arranged for them to visit York Technical College during a workday to identify the skills and competencies required for the workplace. At Wren High School, South Carolina, each teacher observed at least one class in a different department per quarter; teachers also kept each other informed about class content by posting their instructional objectives weekly in a common work room. Joint staff development with educators from The Career and Technology Center (TCTC) focused on integration strategies; Wren/TCTC faculty exchange programs improved communications and allowed teachers to become familiar with each other's subject areas. In Douglas County, Georgia, teacher leaders, outstanding teachers who received special training and conducted study groups for other teachers, maintained open demonstration classrooms where colleagues were always welcome to drop in and observe (Baldwin 1998).

Academic and CTE teachers also worked together to plan and deliver integrated academic and CTE instruction, particularly interdisciplinary projects (SREB 1995, 1996). The student activities committee at Fort Mill planned and held a week-long integrated student learning project, the International Festival, for academic and CTE classes to explore national cultures. At Wren, each teacher planned and implemented an annual integration project with faculty from different disciplines (e.g., a media/industrial technology partnership to produce a televised school news program; a math/social studies partnership to participate in job shadowing in each of Wren's four career majors).

Block scheduling has often been used to provide academic and CTE instructors more time to work together in planning integrated instruction; longer classes mean not only fewer daily preparations for teachers but also increased, more productive student/teacher interaction during class (SREB 1995, 1996) For example, Fort Mill went to a semester block schedule on the recommendation of its instruction and curriculum committees. With block scheduling at Polytech High School, Delaware, classes were 85 minutes for 90-day semesters instead of 45 minutes for the full 180-day school year. In addition, each of Polytech's career academies had a 30-minute staff meeting each day, and a separate 60-minute planning period allowed teachers additional planning time together. Under block scheduling at Spring Valley High School, South Carolina, teachers had a 90-minute planning period to prepare for 3 classes with about 70 students per semester, compared to a 50-minute planning period to prepare for 5 classes with about 130 students under the old schedule. In a simpler approach, high schools in Lee County, West Virginia, eliminated homerooms, allowing teachers an additional 25 minutes of joint planning time daily (Baldwin 1998).

Conclusion

HSTW sites have used a variety of specific approaches to implement a challenging curriculum, provide a systematic program of sustained guidance, and enable academic and CTE teachers to work together in planning and delivering integrated instruction. Some of those approaches are sweeping; others are relatively simple. However, all are based on "the belief that, in the right school environment, most students can learn complex academic and technical concepts"; likewise, all "blend the essential content of traditional college-preparatory studies—mathematics, science, and language arts—with quality vocational and technical studies by creating conditions that support school leaders, teachers, and counselors in carrying out key practices" (SREB 1999, p. 1)

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